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     (FILE 'HOME' ENTERED AT 11:15:17 ON 05 MAR 2005)

     FILE 'INSPEC' ENTERED AT 11:15:26 ON 05 MAR 2005
L1        149049 NANO-POROUS OR NANO########## OR POROUS
L2             0 METAL ADJ OXIDE
L3         14087 METAL(A)OXIDE
L4           301 L1(5A)L3
L5           147 SEMICONDUCTOR (P)L4
L6           129 L5 NOT POROUS
L7        596602 SOLAR OR PHOTO######### OR PHOTO(A)VOLTA###### OR PHOTOVOLTA###
L8            13 L6 AND L7
L9          1567 NANOPOROUS
L10           88 NANO(A)POROUS
L11            4 L9 AND L5

     FILE 'CA' ENTERED AT 11:24:22 ON 05 MAR 2005
L12            4 L11
L13            3 L5 AND L10

     FILE 'INSPEC' ENTERED AT 11:26:14 ON 05 MAR 2005
L14            4 L5 AND L9
L15            0 L5 AND L10
L16        15350 L1 AND L7
L17           21 L5 AND L16
L18      1272459 TEMPERATURE OR SINTERING OR HEAT########
L19           32 L6 AND L18
L20       778166 WET OR SOLUTION OR COLLA###### SOLU######### OR SOLV#######
L21            7 L19 AND L20

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L17 ANSWER 9 OF 21 INSPEC (C) 2005 IEE on STN

AN 2002:7415330 INSPEC DN A2002-23-7360P-010; B2002-11-2520E-004

TI Electron transport in electrodes consisting of **metal oxide nanoparticles** filled with electrolyte solution.

AU Nakade, S. (Nokia Res. Center, Nokia-Japan Co. Ltd., Tokyo, Japan); Kambe, S.; Matsuda, M.; Saito, Y.; Kitamura, T.; Wada, Y.; Yanagida, S.

SO Physica E (April 2002) vol.14, no.1-2, p.210-14. 13 refs.
Doc. No.: S1386-9477(02)00385-5
Published by: Elsevier
Price: CCCC 1386-9477/02/$22.00
CODEN: PELNFM ISSN: 1386-9477
SICI: 1386-9477(200204)14:1/2L.210:ETEC;1-V
Conference: Workshop on Nanostructures in Photovoltaics. Dresden, Germany, 28 July-4 Aug 2001

DT Conference Article; Journal

TC Experimental

CY Netherlands

LA English

AB The electron transport property of **nanoporous** TiO2 films filled with electrolyte solution is studied by pulsed-laser-induced **photocurrent** transient measurements. It is found that the diffusion coefficients of the films depend on the annealing temperature and crystallinity of TiO2 **nanoparticles**, in addition to the diffusion coefficient and concentration of cations in the solution. The diffusion coefficient is interpreted with ambipolar diffusion and trapping models. In order to obtain the fast charge transfer in the films, high cation concentration in the electrolyte and high crystallinity of metal oxide particles are preferred. However, for the crystallinity, a small portion of surface amorphous layer on the particles seems to form an effective neck between particles by annealing.

CC A7360P Electrical properties of other inorganic semiconductors (thin films/low-dimensional structures); A6146 Structure of solid clusters, nanoparticles, and nanostructured materials; A6170A Annealing processes; A7240 Photoconduction and photovoltaic effects; photodielectric effects; A7220J Charge carriers: generation, recombination, lifetime, and trapping (semiconductors/insulators); A6855 Thin film growth, structure, and epitaxy; A8245 Electrochemistry and electrophoresis; B2520E Oxide and ferrite semiconductors; B0580 Powders and porous materials (engineering materials science); B2550A Annealing processes in semiconductor technology; B4210 Photoconducting materials and properties

CT ANNEALING; CARRIER LIFETIME; ELECTROCHEMICAL ELECTRODES; ELECTRON TRAPS; **NANOSTRUCTURED** MATERIALS; PHOTOCONDUCTIVITY; **POROUS** SEMICONDUCTORS; **SEMICONDUCTOR** THIN FILMS; TITANIUM COMPOUND

L17 ANSWER 16 OF 21 INSPEC (C) 2005 IEE on STN
AN 2001:6953389 INSPEC DN A2001-14-6146-024
TI Synthesis of silver-coated silica **nanoparticles** in nonionic reverse micelles.
AU Zhang, D.B.; Cheng, H.M.; Ma, J.M. (Dept. of Chem., Peking Univ., Beijing, China); Wang, Y.P.; Gai, X.Z.
SO Journal of Materials Science Letters (28 Feb. 2001) vol.20, no.5, p.439-40. 11 refs.
Published by: Kluwer Academic Publishers
Price: CCCC 0261-8028/2001/$19.50
CODEN: JMSLD5 ISSN: 0261-8028
SICI: 0261-8028(20010228)20:5L.439:SSCS;1-3
DT Journal
TC Experimental
CY United States
LA English
AB During the past decade, the preparation and characterization of **nano**-sited **semiconductor** particles and metal clusters have been an attractive area of investigation. Aside from their very high surface area, these particle possess chemical and physical properties that are distinct from both the bulk phase and individual molecules, showing potential application in optics, optoelectronics, catalysis and so on. In view of important influences of the surface structure of **nanoparticles** on properties of materials, much effort has been expanded to obtain a new class of materials through the modification of surface structure. A recent achievement is to develop a method for preparing composite or coated **nanoparticles**, including metal/ **semiconductor**, **semiconductor/semiconductor**, and **semiconductor**/metal composite **nanoparticles**. Some unusual **photocatalytic** and photoelectrochemical properties have been discovered in these composite **nanoparticles**. Inverse micelle solutions or w/o microemulsions provide an ideal medium for synthesis of stable and size-controlled **nanoparticles**. In this paper, as a preliminary study to the synthesis and properties of **metal-oxide** composite **nanoparticles**, we report the preparation of silver-coated silica **nanoparticles** with a core-shell structure in situ in reverse micelle.
CC A6146 Structure of solid clusters, nanoparticles, and nanostructured materials; A8120 Other methods of preparation of materials
CT **NANOSTRUCTURED** MATERIALS; SILICON COMPOUNDS; SILVER
ST **Ag-coated silica nanoparticles**; nonionic reverse micelles; core-shell structure; Ag-SiO2
CHI Ag-SiO2 int, SiO2 int, Ag int, O2 int, Si int, O int, SiO2 bin, O2 bin, Si bin, O bin, Ag el
ET Ag; Ag*O*Si; Ag sy 3; sy 3; O sy 3; Si sy 3; SiO2; Si cp; cp; O cp; Ag-SiO2; SiO; Ag-SiO; O*Si; O; Si

L17 ANSWER 20 OF 21 INSPEC (C) 2005 FIZ KARLSRUHE on STN

AN 1997:5523542 INSPEC DN A9708-7855-038

TI Luminescence of charge transfer sensitizers anchored to **metal oxide nanoparticles**.

AU Heimer, T.A.; Meyer, G.J. (Dept. of Chem., Johns Hopkins Univ., Baltimore, MD, USA)

SO Journal of Luminescence (Oct. 1996) vol.70, no.1-6, p.468-78. 19 refs.
Doc. No.: S0022-2313(96)00079-8
Published by: Elsevier
Price: CCCC 0022-2313/96/$15.00
CODEN: JLUMA8 ISSN: 0022-2313
SICI: 0022-2313(199610)70:1/6L.468:LCTS;1-N

DT Journal

TC Experimental

CY Netherlands

LA English

AB The photoluminescence (PL) properties of inorganic charge transfer sensitizers anchored to **nanometer** sized **metal oxide** particles are presented. The charge transfer sensitizers are inorganic coordination compounds such as ruthenium tribipyridine, Ru(bpy)32+, which have long lived metal-to-ligand charge transfer (MLCT) excited states. The metal oxides are insulators or **semiconductor** materials in the form of powders, colloidal solutions, and **porous** nanocrystalline films. Time resolved PL decays from this and related sensitizers anchored to metal oxide surfaces are highly non-exponential. The MLCT excited states are quenched on semiconducting metal oxide particles by an apparent electron transfer mechanism. With some assumptions electron transfer rates from the MLCT excited states to the **nanostructured** surface are calculated. The PL properties of sensitizers bound to **porous** nanocrystalline TiO2 films can be controlled electrochemically.

CC A7855H Photoluminescence in other inorganic materials; A8265M Sorption and accommodation coefficients (surface chemistry); A8270D Colloids; A6845 Solid-fluid interface processes; A7847 Ultrafast optical measurements in condensed matter; A7320H Surface impurity and defect levels; energy levels of adsorbed species

CT ADSORPTION; BONDS (CHEMICAL); CHARGE TRANSFER STATES; COLLOIDS; **NANOSTRUCTURED** MATERIALS; ORGANIC COMPOUNDS; **PHOTOCHROMISM** ; PHOTOLUMINESCENCE; **POROUS** MATERIALS; RAD

WEST Search History

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☐	L20	L19 and l18	75
☐	L19	423/$.ccls.	91798
☐	L18	l6 and l12 and l16	558
☐	L17	L16 and l14	198
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☐	L15	heat$5 or preheat$5 or $4heat$5 or sinter$5 or temperature	5809990
☐	L14	L13 and l10	208
☐	L13	wet or coll$5 or solu$5 or solv$5	6982396
☐	L12	wet or coll$5 or solu$5 or solv$5	6982396
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☐	L10	L9 and l6	223
☐	L9	L8 or l7	1079554
☐	L8	solar adj cell	41872
☐	L7	photo$6 or photovolta$4 or (photo adj volta$5)	1050056
☐	L6	l5 adj5 (metal adj oxide)	777
☐	L5	nano$6 or nano-porous or (nano adj porous)	150144
☐	L4	6602731	3

☐	L3	6649824	4
☐	L2	6737293	2
☐	L1	6706551	2

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DATE: Monday, February 28, 2005

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☐	L18	L17 and l13	192
☐	L17	L16 same l11	277717
☐	L16	titanium or tungsten or tin or nobium or tantalum	769518
☐	L15	L14 and l3	2
☐	L14	l13 and l5	128
☐	L13	l10 same l9	355
☐	L12	L11 near10 l10	436915
☐	L11	metaladj oxide	1379560
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☐	L9	nanoporous or nano-porous or (nano adj porus)	1649
☐	L8	l2 not l6	123
☐	L7	l2 nor l6	470843
☐	L6	L5 and l2	35
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☐	L1	metal near10 nanoporous	158

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☐	L10	nano$5 or nano-porous	91531
☐	L9	L8 and l4	8
☐	L8	438/$.ccls.	167322
☐	L7	l4 and l5	0
☐	L6	L5 and l5	353
☐	L5	mulpuri.xp.	353
☐	L4	andriessen.inv.	229
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☐	L3	nano-porus	0
☐	L2	nano=porou	4294967295
☐	L1	andriessen.inv.	64

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DATE: Saturday, March 05, 2005

Hide?	Set Name	Query	Hit Count
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☐	L15	l3 same l6	27
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☐	L13	(titanium adj oxide)or ti?sub.$O	74270
☐	L12	(titanium adj oxide)or ti?sub.$O	74270
☐	L11	l1 and l6	1
☐	L10	L9 and l8	18
☐	L9	preheat$5	147823
☐	L8	L7 and l6	132
☐	L7	sinter$5	275375
☐	L6	(nanoparticles or nanocrystal$5) near5 (metal adj oxide$)	639
☐	L5	(nanoparticles or nanocrystal$5) near5 (metal adj oxide$)	639
☐	L4	l1 and l2	3
☐	L3	L2 an dl1	303179
☐	L2	sinter$5	275375
☐	L1	pichot.inv.	126

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